

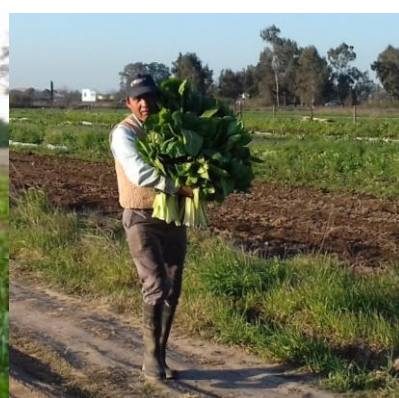


Contributions of Urban and Peri-Urban Agriculture to resilience in Rosario.



Agro-ecological Food Production in Rosario

Urban Agriculture Program (2002)
Adaptation and mitigation research (2013)
Rosario Green Belt Project (2016)
Local Climate Action Plan (2020)



Objectives:

- To promote in urban and peri-urban areas, sustainable food production systems;
- To promote income generation and social inclusion of vulnerable families;
- To guarantee access to healthy food;
- To provide environmental services;
- To mobilize the local economy.



Protected spaces for food production in urban areas - Orchard Parks

Productive use of non-buildable space. Land valorization



Parque huerta La Tablada - After and before



Protected areas for food production in Non-Urbanisable Areas



Food production
Environmental services
For the city

800 Has



Municipalidad
de Rosario

Farmer Empowerment

Technical assistance

Financial assistance

Sales opportunities

Added value

Social and economical inclusion



Responsible consumption

Local markets

Short distribution chain

Direct sales Producer-Consumer

Tradeshows



What have we achieved?

Total area in agro-ecological production: 126 ha

Area in agro-ecological transition: 157 ha

Producers involved: 381 (41 Green Belt - 340 Urban Agriculture)

65% of the producers in vegetables gardens are women
7 orchard parks - 9 community vegetables gardens

6,300 tons of agro-ecological food per year



What have we achieved?

44 municipal agro-ecological marketing points in the City

1 Permanent point of exclusive commercialization of agroecological foods (Mercado del Patio)

1 Agroecological Research Center



Facing Climate Change

- CO₂ capture
- Organic waste recycling for compost
- Biodiversity and landscape preservation
- CO₂ reduction for use of biologic products instead of chemical products
- Flooding protection

rainfall infiltration 3,6 times bigger in agroecologically handled soil*

Source: COMPARATIVE ANALYSIS OF THE LAND INFILTRATION CAPACITY IN DIFFERENT AGROPRODUCTIVE SPACES IN URBAN AND PERIURBAN AREAS OF ROSARIO. Zimmermann, E.; Bracalenti, L.; Latuca, A. Terrile, R.; Martínez, N.; Onocko, A.; Macieyko, C.; Valiente, J.; Vazquez, F. Dres. Ings., Centro Universitario Rosario de Investigaciones Hidroambientales (CURIHAM), Facultad de Ciencias Exactas, Ingeniería y Agrimensura - UNR. Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET). E-mail: erikz@fceia.unr.edu.ar. Web: <http://www.fceia.unr.edu.ar/curiham> (87).



Facing Climate Change

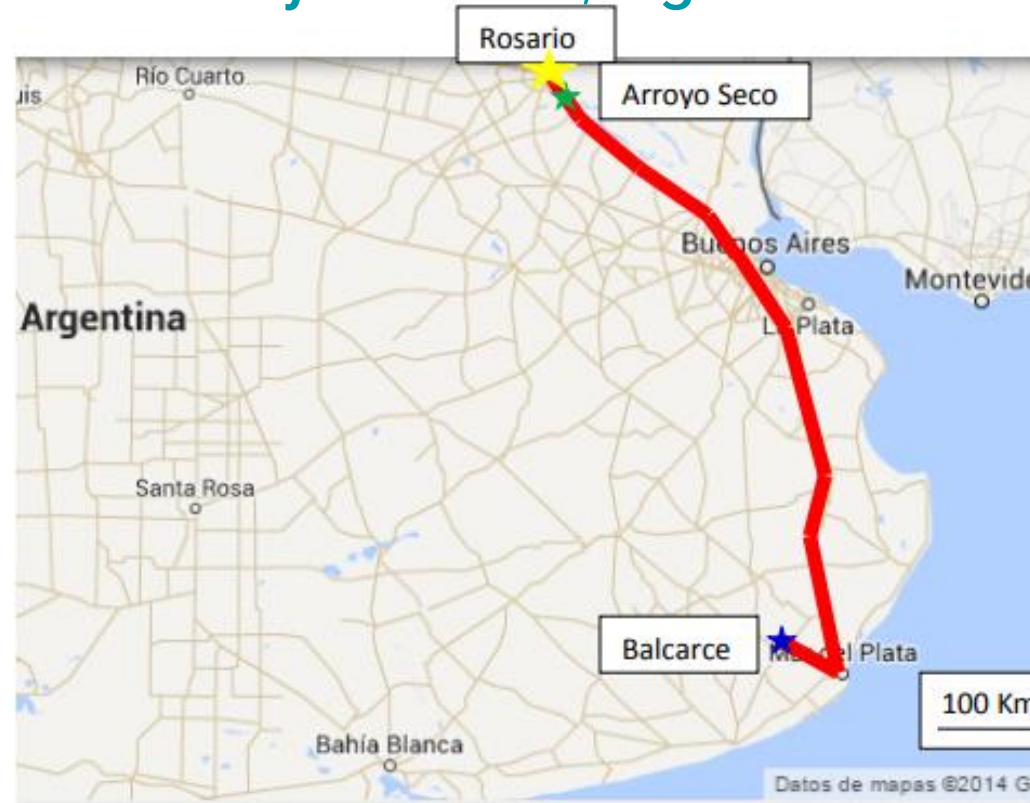
- **Heat island effect mitigation**
temperatures in the urban gardens are lower than in the urban area, by 8,1 °C in summer.
- **CO₂ emissions related to food transports would be reduced**
between a 95% and a 98 % per year



Contribution of peri-urban potato food production to the reduction of Greenhouse gases. The case of the city of Rosario, Argentina*

The figure describes the difference in the potato food transportation (usually called "food miles") if it is produced in the long distance Balcarce region or if it is produced in the Arroyo Seco peri-urban region around Rosario city.

In a research work made by Piacentini and Vega and published by the RUAF Foundation of the Netherlands, they determined that this difference in travel, allows a 96% reduction in CO₂ greenhouse gas emission.



* **Source: Piacentini R D and Vega M.** "Fuel consumption and CO₂ emissions comparing the production and transportation of vegetables to the city of Rosario, Argentina with local production" (in Spanish). Published by RUAF (Resource Centres for Urban Agriculture Foundation), Holanda, with the support of CDKN (Climate Development Knowledge Network), 1-50, 2014 (<https://ruaf.org/document/comparando-la-produccion-y-transporte-de-vegetales-hacia-la-ciudad-de-rosario-argentina/>). Figure source: Mercado Concentración Fisherton, Rosario.



Contribution of urban farms to the reduction of the city temperature.

A present experiment of the posible future evolution of global temperatures*

In the city of Rosario, Argentina, measurements were done during a year of the ambient temperature in normal or non-UPAF (Urban-Periurban-Agriculture and Forestry) sites, with respect to UPAF sites. The Table details the maximum temperature difference between both sites, showing large difference value, arriving in winter to **10.6 °C**.

Season of the year	Spring	Summer	Autumn	Winter
Maximum Temperature difference between non-UPAF and UPAF sites →	8.1 °C	8.1 °C	9.7 °C	10.6 °C

**Source: Coronel A S, Feldman S R, Jozami E, Kehoe F, Piacentini R D, Dubbeling M and Escobedo F J. "Effects of urban green areas on air temperature in a medium sized Argentinian city". AIMS (American Institute of Mathematical Science) Environmental Sciences, 2 (3) 803-826, 2015. DOI: 10.3934/environsci.2015.3.803.*



Lessons Learned

- Participative process
- Different sectors involve in the project (network)
- Valorization of farmers knowledge
- Technical Capacity
- Social appropriation
- Sustained policies of promotion
- Local regulations (use of land, different programs creation, restrictions on the use of agrochemicals products)
- Inter departmental approach (Secretaries of Economic Development, Human Development, Environment, Health and Urban Planning)



MANY THANKS

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